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WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a first semiconductor element to be bonded to a wiring board in a flip-chip bonding manner;
a resin peripheral wall formed on said wiring board in such a manner as to surround said first semiconductor element;

a sealing resin poured so as to fill a space surrounded by said resin peripheral wall and then hardened; and

a second semiconductor element provided in such a manner that a back surface thereof is fixed on an upper surface of said sealing resin and an electrode provided on a front surface thereof is connected to a segment of wiring on said wiring board by means of a bonding wire.

2. A semiconductor device according to claim 1, wherein a portion, in the thickness direction, of said second semiconductor element is buried in said sealing resin, and the back surface of said second semiconductor element is supported on the back surface of said first semiconductor element via said sealing resin; and

the front surface of said second semiconductor element is projected from the upper surface of said sealing resin.

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3. A method of fabricating a semiconductor device, comprising the steps of:

 bonding a first semiconductor element on a wiring board in a flip-chip bonding manner;

 forming a resin peripheral wall on said wiring board in such a manner that the first semiconductor element is surrounded by the resin peripheral wall;

 filling a space surrounded by the resin peripheral wall with a liquid sealing resin;

 fixing a back surface of a second semiconductor element on an upper surface of the sealing resin; and

 connecting an electrode provided on a front surface of the second semiconductor element to a segment of wiring on the wiring board by means of a bonding wire after fixing of the second semiconductor element on the sealing resin.

4. A method of fabricating a semiconductor device according to claim 3, wherein said step of fixing the second semiconductor element on the upper surface of the sealing resin is carried out by placing the back surface of the second semiconductor element on the upper surface of the sealing resin before perfect hardening of the sealing resin and after the sealing resin becomes hard by a prescribed level.

5. A method of fabricating a semiconductor element according to claim 3 or 4, wherein a viscosity of a resin filled as the sealing resin is lower than a viscosity of a resin used for forming the resin peripheral wall.

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